

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Wireless Emergency Alerts)	PS Docket No. 15–91
)	
Amendments to Part 11 of the Commission’s Rules)	PS Docket No. 15–94
Regarding the Emergency Alert System)	

To: The Commission

REPLY COMMENTS

Steve Sharkey
Shellie Blakeney
Eric Hagerson

T-MOBILE USA, INC.
601 Pennsylvania Ave., NW
North Building, Suite 800
Washington, DC 20004
(202) 654-5900

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REPLY COMMENTS

T-Mobile USA, Inc. (“T-Mobile”)¹ respectfully submits these reply comments in response to comments on the Further Notice of Proposed Rulemaking (“FNPRM”) concerning wireless emergency alerts (“WEA”).²

INTRODUCTION AND SUMMARY

T-Mobile is a committed participant in the WEA system. In its comments, T-Mobile urged the FCC to examine the proposals introduced in its FNPRM with an eye toward ensuring that WEA continues to operate in an efficient and effective manner to the benefit of both emergency personnel and commercial mobile service (“CMS”) Provider participants. These reply comments highlight some of the concerns raised in the record regarding certain proposed WEA changes. As highlighted below, other commenters expressed similar concerns.

¹ T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

² *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, Report and Order and Further Notice of Proposed Rulemaking, PS Docket Nos. 15-91, 15-94, 31 FCC Rcd 11112 (2016) (“R&O” and “FNPRM”), *summarized*, 81 Fed. Reg. 75710 (Nov. 1, 2016), 81 Fed. Reg. 78539 (Nov. 8, 2016). (Unless otherwise indicated, comments referenced herein are those filed in PS Docket Nos. 15-91 and/or 15-94 on December 8 or 9, 2016.)

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Specifically, the record establishes that further study is essential before any geo-targeting mandate can be considered, given that the Commission's proposed benchmark is not realistically achievable. To this end, it is premature to set a specific degree of precision and establish a deadline for implementation until, at a minimum, the Alliance for Telecommunications Industry Solutions ("ATIS") has completed its standards-related work. In addition, the record establishes that WEA is not an appropriate means for transmitting earthquake early warnings and that the proposed 3-second latency limit cannot be achieved through the WEA system. Consistent with its activity in PS Docket No. 16-32, the Commission should study alternative means of sending earthquake-related alerts.

Commenters also made clear that WEA is simply not capable of the many-to-one communications the Commission seeks to encourage. Moreover, commenters favoring multimedia alerting failed to dispel concerns that such alerts may actually delay alert delivery and disrupt WEA functionality. For similar reasons, it is premature to consider (i) multilingual support beyond English and Spanish in light of the need for an enlarged character set which, as the record suggests, would be problematic; and (ii) 5G network support for WEA, given the nascent nature of 5G development and standards-making.

There is no need for action regarding the preservation of alerts. In addition, the comment record provides no basis for requiring annual WEA reports from participating CMS Providers, particularly in light of the FCC's current requirement that such Providers make relevant information available upon request. Likewise, the comments fail to supply any basis for imposing new alert logging standards. Finally, T-Mobile agrees with commenters opposing the deletion of provisions from the rules expressly ensuring that CMS Providers have the maximum flexibility for participating in WEA. The record does not favor the proposed rule deletion.

I. THE ISSUE OF GEO-TARGETING REQUIRES FURTHER STUDY

There is broad support in the record for the ultimate objective of improved geo-targeting, but there is not yet a consensus on how best to achieve this objective. In particular, it is unclear that either prong of the 100%/0.1 mile overshoot benchmark proposal can be achieved. ATIS notes in its comments that a CMS Provider simply cannot be certain that 100% of mobiles in a defined area will receive a message, due to network topology, site locations, and physics.³ And several commenters observed that the 0.1 mile accuracy level is a challenge, because this degree of precision is not possible using only cell broadcast technology.⁴ Similarly, although a device-based or app-based technology leveraging the handset's location services capability may be a potential solution as suggested by some commenters,⁵ T-Mobile believes further study, which would include a standardization effort along with a security issues analysis, is required.

The record demonstrates that it is premature to determine the required precision and deadline for implementation because both standards and the feasibility of particular precision benchmarks are currently under study by ATIS.⁶ T-Mobile agrees with CTIA that the Commission should withhold final action until ATIS has completed its work.⁷ Moreover, the

³ ATIS Comments at 8.

⁴ AT&T Comments at 17-18; ATIS Comments at 8; CTIA Comments at 6. Although the use of network positioning technology may assist, this could overload network positioning infrastructure. AT&T Comments at 17-18.

⁵ AC&C Comments at 3-8; AT&T Comments at 18-19; Calhoun County, Alabama Emergency Management Agency ("Calhoun") Comments at 1-2; CTIA Comments at 6; New York City Emergency Management Department ("NYC") Comments at 11; *see also* City and County of San Francisco Department of Emergency Management ("SF") Comments at 1.

⁶ *See* Verizon Comments at 4-5.

⁷ CTIA Comments at 7; *see also* Microsoft Comments at 8.

Commission should remain technologically neutral and not favor either device-based or network-based solutions, especially if those solutions include proprietary technologies.⁸

II. WEA IS NOT AN APPROPRIATE MEANS FOR TRANSMITTING EARTHQUAKE EARLY WARNING ALERTS

The record makes clear, consistent with T-Mobile's comments, that the WEA network is not appropriate for delivering earthquake alerts. The WEA system simply is not designed to transmit alerts end-to-end in less than three seconds.⁹ The Commission already has a separate docket (PS Docket No. 16-32) examining how best to meet the need for earthquake warnings.¹⁰ As reported in that docket, ATIS is studying requirements for a separately specified earthquake warning system.¹¹ The Commission should defer to those efforts. Having sought comment there on ATIS's conclusion that "it would not be feasible to develop an [earthquake early warning] system within the framework of existing alerting systems [including WEA],"¹² the Commission should continue to assess the comments in that docket and defer to ATIS.

T-Mobile believes that it is arbitrary to hold CMS Providers responsible for latency outside their control¹³ and fully agrees with commenters who observed that there is no technical basis for the FCC's proposal.¹⁴

⁸ See Verizon Comments at 4-5.

⁹ AT&T Comments at 7-9; ATIS Comments at 4-5; CTIA Comments at 9-11; T-Mobile Comments at 6; Verizon Comments at 3-4.

¹⁰ Public Notice, *Public Safety and Homeland Security Bureau Seeks Comment on Ways to Facilitate Earthquake-Related Emergency Alerts*, PS Docket No. 16-32, 31 FCC Rcd 3459 (PSHSB Apr. 8, 2016). See AT&T Comments at 7-9; T-Mobile Comments at 5-6.

¹¹ Public Notice, 31 FCC Rcd at 3464-65; see Verizon Comments at 3-4.

¹² Public Notice, 31 FCC Rcd at 3465.

¹³ AT&T Comments at 9-10.

¹⁴ CTIA Comments at 9-11. There is no emergency alerting program in existence that meets a proposed latency requirement of 3-seconds. See AT&T Comments 9-10. Even the renowned Japanese Tsunami warning system does not meet a 3-second latency requirement. *Id.*

III. WEA IS NOT AN APPROPRIATE PLATFORM FOR MANY-TO-ONE COMMUNICATIONS

As many commenters observed, WEA was not designed for and cannot be used for many-to-one communications because it is a one-to-many broadcast network.¹⁵ As ATIS observes, “Because WEA uses broadcast technology, there is no technical capability for information to be communicated ‘back’ to the originator.”¹⁶ There are other platforms specifically designed to allow the public to provide emergency officials with information to improve situational awareness, such as voice and SMS-to-911, which would be more appropriate, as T-Mobile previously noted in its comments.¹⁷

While some commenters supported a many-to-one capability, none suggested how this could be directly supported by the WEA network’s cell broadcast technology.¹⁸ Other commenters even indicated that emergency managers may become overwhelmed by crowdsourced information, which is a valid point for the FCC’s consideration.¹⁹ There clearly is no basis for requiring a many-to-one capability within WEA.

¹⁵ AT&T Comments at 10-11; ATIS Comments at 6; CTIA Comments at 12.

¹⁶ ATIS Comments at 6; *see also* AT&T Comments at 10 (“WEA support for many-back-to-one communications cannot be ‘enhanced’ because there is no backwards channel in WEA, which exploits a broadcast channel only.”)

¹⁷ T-Mobile Comments at 7; *see also* ATIS Comments at 6 (“[T]here may be effective, alternative methods for achieving the Commission’s goals on this matter, including the use of URLs in WEA messages and alert originator-developed web-based solutions.”).

¹⁸ *See* Department of Homeland Security Science and Technology Directorate’s First Responder Group (“DHS”) Brief Comment at 1; NYC Comments at 5; SF Comments at 2. *See also* Calhoun Comments at 2 (supporter of crowdsourcing suggested using an embedded URL in a WEA alert for this application, rather than directly incorporating a many-to-one capability into WEA).

¹⁹ CTIA Comments at 12; Association of Public-Safety Communications Officials-International (“APCO”) Comments at 2-3.

IV. THE RECORD DOES NOT SUPPORT MULTIMEDIA ALERTING

Several commenters support inclusion of multimedia content in alert messages but do not show how it can be achieved in a realistic manner.²⁰ The abstract desirability of this feature, standing alone, does not justify requiring participating CMS Providers to invest in expensive technologies with no other current use.²¹

Moreover, the comments confirm T-Mobile's concern that even small "thumbnail" images will be too large to transmit using the current WEA framework, which will delay delivery of alerts and disrupt the functioning of WEA.²² As ATIS found in its Feasibility Study and reiterated in its comments, "a thumbnail-sized image would be 14,400 bytes in size if an 8-bit color scale is used, and would require the broadcast of 3600 octets, assuming 25 percent compression."²³ As a result, ATIS concludes such an image "would be too large to transmit in WEA as it would require at least 11 WEA binary messages to broadcast," which "is not feasible and has significant potential for disruption of the network."²⁴ Proposals by a handful of emergency managers to include even larger, more detailed graphics, or even interactive images,²⁵ are even more unrealistic.

²⁰ APCO Comments at 3; Calhoun Comments at 2-3; Nassau County Office of Emergency Management ("Nassau") Comments at 1.

²¹ AT&T Comments at 14-15.

²² ATIS Comments at 6-7; CTIA Comments at 12-13; Microsoft Comments at 6-7; Verizon Comments at 4.

²³ ATIS Comments at 6-7 (*quoting* ATIS FEASIBILITY STUDY FOR WEA SUPPLEMENTAL TEXT, ATIS-0700026, at 10 (2015) ("FEASIBILITY STUDY"), https://access.atis.org/apps/group_public/download.php/25923/ATIS-0700026_WEA_Supplemental.pdf).

²⁴ ATIS Comments at 7 (*citing* FEASIBILITY STUDY at 10); *see also* Verizon Comments at 4 ("This capability is technically infeasible through the Broadcast SMS method used for wireless emergency alerts today . . .").

²⁵ *See* Calhoun Comments at 2-3; Nassau Comments at 1.

As several commenters observed, multimedia alerting may be feasible on 4G and future networks once multimedia broadcast messaging technologies are in place for commercial purposes.²⁶ For networks and devices not capable of multimedia alerts, New York City suggests that an embedded link may be appropriate.²⁷ However, T-Mobile maintains that such an approach must be considered carefully because the links may end up placing more strain on carrier networks at a critical time, as people click on the link and download graphics, maps, and images.²⁸

In sum, there is an inadequate record at this time to warrant requiring participating CMS Providers to offer multimedia alerting.²⁹

V. MULTILINGUAL SUPPORT BEYOND ENGLISH AND SPANISH WARRANTS FURTHER DISCUSSION

The record indicates that it is premature for the Commission to consider a multilingual support requirement beyond current requirements. While support for languages other than English and Spanish is desirable conceptually, there are practical issues that warrant further study—*e.g.*, there will need to be support for non-Latin character sets, as Calhoun County recognizes.³⁰ In addition to T-Mobile, ATIS observed that additional language support will require switching to the Unicode UCS-2 character set, which will greatly reduce the number of total characters transmitted.³¹ And, T-Mobile agrees with Nassau County that further discussion

²⁶ See AT&T Comments at 15; CTIA Comments at 12-13; Microsoft Comments at 6-7; NYC Comments at 7, 9; Verizon Comments at 4.

²⁷ NYC Comments at 9.

²⁸ If the link is a phone number, networks may overload as thousands of persons dial the same number at the same time.

²⁹ AT&T Comments at 14-15.

³⁰ Calhoun Comments at 2.

³¹ See ATIS Comments at 7-8; T-Mobile Comments at 9-10.

is needed to ensure message delivery is not delayed as a result of multilingual message transmission.³²

VI. IT IS PREMATURE TO CONSIDER WEA 5G SUPPORT

While T-Mobile agrees with public safety commenters that 5G holds great promise,³³ it also agrees with ATIS and CTIA that it is still too early to make concrete plans for WEA on 5G networks whose standards and use cases are still being developed.³⁴ Their view is fully consistent with T-Mobile's position that "5G standards are too amorphous for the industry to realistically address the incorporation of alerts and warnings."³⁵

VII. ACTION ON ALERT PRESERVATION IS NOT NEEDED

While several public safety commenters argued for retention of WEA alerts on handsets until their expiration or even longer,³⁶ other commenters demonstrated the practical problems associated with such a requirement. In particular, ATIS noted that preservation requirements based on message expiration date/time pose technical challenges.³⁷

T-Mobile concurs with the suggestion by CTIA and Microsoft that alert preservation really is a matter of handset design.³⁸ The record further demonstrates that the preservation of

³² Nassau Comments at 2.

³³ *See, e.g.*, APCO Comments at 4, Nassau Comments at 2.

³⁴ ATIS Comments at 8; CTIA Comments at 13-14.

³⁵ T-Mobile Comments at 11.

³⁶ APCO Comments at 2; Calhoun Comments at 1; Nassau Comments at 2; NYC Comments at 4; Rehabilitation Engineering Research Center for Wireless Inclusive Technologies and the Georgia Institute of Technology's Center for Advanced Communications Policy ("Wireless RERC & CACP") Comments at 9.

³⁷ ATIS Comments at 4.

³⁸ CTIA Comments at 11; Microsoft Comments at 5-6 ("It is technologically feasible to preserve emergency alerts on a device and, as the Further Notice acknowledges, Windows smartphones already do so. Microsoft counsels against imposing a uniform mechanism for alert

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alerts can already be addressed through the feature-set of certain devices. Thus, requiring a uniform mechanism is unnecessary and would potentially hamper innovation.³⁹

VIII. AN ANNUAL REPORTING REQUIREMENT IS NOT SUPPORTED BY THE RECORD

T-Mobile agrees with AT&T that annual reports are “unnecessary burdens on the voluntary participants in the WEA system.”⁴⁰ As T-Mobile has previously commented, there is no need for complex and potentially burdensome reporting requirements, given that the rules just adopted already “require[] Participating CMS Providers to supply information to the FCC, FEMA, and certain emergency managers upon request.”⁴¹ Several public safety commenters weighed in supporting the annual reporting requirement,⁴² but they failed to show why such reports are necessary, in light of the existing requirement. Thus, the record reflects no adequate basis for imposing annual reporting requirements on CMS Providers.

IX. THE COMMISSION SHOULD DEFER CONSIDERATION OF ALERT LOGGING STANDARDS

Although APCO and New York City support adoption of a uniform format for alert logging,⁴³ T-Mobile agrees with AT&T that the Commission should allow its newly adopted

(footnote continued)

preservation, however. Requiring uniformity among different operating systems lessens the uniqueness of each operating system, dampens innovation, and hampers the evolution of a feature over time.”) (footnote omitted).

³⁹ CTIA Comments at 11; Microsoft Comments at 5-6.

⁴⁰ AT&T Comments at 19.

⁴¹ T-Mobile Comments at 12.

⁴² APCO Comments at 5; Nassau County Comments at 2; NYC Comments at 15; Wireless RERC & CACP Comments at 15.

⁴³ APCO Comments at 5; NYC Comments at 16.

logging requirements to be implemented before layering on new requirements.⁴⁴ There has been no apparent new development justifying the adoption of new logging standards. Therefore, the Commission should evaluate whether any new standards are needed only *after* there has been experience under the new rules.

X. THE FCC SHOULD PROMOTE TECHNOLOGICAL FLEXIBILITY FOR WEA PARTICIPANTS

ATIS and CTIA were the only commenters to address the Commission's proposal to delete from its rules provisions expressly allowing CMS Providers the flexibility to employ various network technologies and that WEA functionality may depend on the technology employed. Both opposed deletion of these provisions.⁴⁵ T-Mobile agrees that the rules should maximize the technological flexibility of CMS Providers participating in WEA, and thus the relevant rule provisions should not be deleted.

⁴⁴ AT&T Comments at 22.

⁴⁵ ATIS Comments at 3; CTIA Comments at 8.

CONCLUSION

For the foregoing reasons, the Commission should not adopt new WEA regulations before the record clearly establishes that such regulations are both needed and feasible.

Respectfully submitted,

By:

Steve Sharkey
Shellie Blakeney
Eric Hagerson

T-MOBILE USA, INC.
601 Pennsylvania Ave., NW
Washington, DC 20004
(202) 654-5900

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